



**COMMENTS OF NV ENERGY
LOCAL MARKET POWER MITIGATION ENHANCEMENTS
DRAFT FINAL PROPOSAL
DATED JANUARY 31, 2019
CAISO STAKEHOLDER PROCESS**

February 8th, 2019

NV Energy appreciates the opportunity to comment on the CAISO response to comments and the draft final proposal. NV Energy supports the CAISO's efforts to improve the determination of the Default Energy Bid used as a mitigation measure to prevent the potential exercise of local market power. NV Energy, however, remains concerned with elements of the proposal that CAISO is still pursuing with respect to flow reversal, economic displacement, and the Hydro Default Energy Bid.

NV Energy does not support any proposal to prevent economic displacement during mitigation because they conflict with the intent of the CAISO mitigation measures, create inefficient market outcomes, and incentivize entities to limit transfers. Additionally, flow reversal and economic displacement proposals are not necessary after the enhancements to the Hydro Default Energy Bid. Sellers of voluntary supply offered by Energy Imbalance Market participants are more than adequately compensated when their Default Energy Bid accurately represents its costs plus lost opportunity. If an EIM Entity voluntarily participates by submitting supply offers into the market, including offers above the amount necessary to pass the flexible ramp sufficiency test, those offers should be subject to a uniform set of rules, including those necessary to prevent the exercise of local market power. Just because the voluntary supply has the potential to be mitigated does not make this supply any less voluntary.

If a Default Energy Bid is sufficiently compensatory and mitigation is triggered under appropriate circumstances, the CAISO's market rules should not permit a limited subset of market participants to effectively withdraw voluntary offers. Moreover, the CAISO's statement that "the amount of transmission that is made available to support EIM transfers out of the EIM BAA is voluntary"¹ is not accurate with respect to the Available Transfer Capacity (ATC) that *must* be provided to the market in accordance with the Open Access Transmission Tariffs of the EIM Entities with "OATTs".

Once a participant has passed their flexible ramping and capacity tests, then the EIM Entity is in the market, including any additional supply voluntarily offered for the remainder of that hour. Neither transmission rights nor bids can be withdrawn. Limiting transfers intra hour have a higher probability that the limitation will cause congestion, resulting in price separation which can create further harm to the Balancing Authority Area behind this artificial constraint. Additionally, this proposal creates an incentive for an Energy Imbalance Market Entity to elect this option to create congestion that would be paid directly to that Entity. Limiting transfers during intervals of mitigation will result in instances of price separation between Balancing Authority Areas which distorts competitive outcomes in the Energy Imbalance Market.



Therefore, the proposal to eliminate economic displacement during intervals of mitigation conflicts with the intent of CAISO mitigation measures as stated in the CAISO Tariff.²

I. Updated Market Design Principle

CAISO updated its proposed market design principle for this stakeholder initiative:

“EIM is a voluntary market but the design assumes sharing of ramping capability. In cases of mitigation involving EIM transfers to another BAA, entities should not be forced to sell energy at mitigated prices beyond: 1) the pre-mitigation transfer quantity or 2) the base transfer quantity. This quantity should be further adjusted to include the flexible ramping up awards in the market power mitigation run, less the BAAs flexible ramping up requirement. Ultimately, the use of mitigated bids should not result in additional economic displacement of other supply.”¹

NV Energy does not support this updated design principle. The import of this design principle is that only energy up to the EIM Entities’ flexible ramping requirement is deemed to be competitive. Essentially, all energy above this testing requirement should not be mitigated as part of a sale to other entities. It inappropriately expands the use of a test requirement that was intended only to determine resource sufficiency as related to market participation, prior to a market run. The CAISO’s proposal essentially allows a participating Energy Imbalance Market Entity to elect to pull capacity out of the market, *that it had previously offered voluntarily*, during periods of mitigation.

Accordingly, this updated proposed market design principle conflicts with the intent of the CAISO mitigation measures – to ensure supply offered into the market does not unjustly increase prices due to the exercise of local market power. By allowing participants to withdraw previously-offered capacity during intervals of mitigation, CAISO is allowing noncompetitive outcomes to occur. Market design principles should not conflict with the intent of CAISO Mitigation Measures defined in the CAISO tariff.² If the approved methodology for when mitigation is triggered is reasonable and if the mitigated price, the Default Energy Bid is reasonable, then any supply voluntarily offered should be subject to the competitive market price outcome, including the Default Energy Bid where applicable.

II. Adder to the Competitive LMP to Prevent Flow Reversal

CAISO proposes to include a price adder to the competitive locational marginal price to ensure price separation between balancing authority areas. This adder has been defined to be capped in the tariff by \$0.10 and included in the business practice manual as \$.001 to start.¹ NV Energy supports the use of a price cap defined in the tariff with the actual nominal adder specified in the business practice manual. However, NV Energy does not support the cap of \$0.10 in the tariff. This is not a nominal adder and this cap is higher than the cap used for EIM transfer costs which is specified at \$0.01 in the CAISO tariff.² NV Energy requests that CAISO change the adder to match the transfer cost cap of \$0.01 or provide an explanation as to why such a high cap is warranted.



III. Economic Displacement During Mitigation

CAISO proposes an option to limit transfers during intervals of mitigation to the greater of the Entity's flexible ramp up requirement or the pre-mitigation export. CAISO has responded to NV Energy's previously-expressed concerns about this proposal with the following statement:

"The amount of transmission that is made available to support EIM transfers out of the EIM BAA is voluntary. Without the economic displacement rule, an EIM entity may seek to minimize the amount of energy that is sold to other EIM BAA's at mitigated prices by reducing transmission to support transfers. If this occurs, the EIM would be harmed more since wheel through transactions will also be limited because transmission is not available."¹

This statement does not withstand scrutiny. First, it is important to recognize that for almost all of the current EIM Entities there are two types of transmission: (1) previously-purchased transmission made available from the EIM Entity's Merchant known as the EIM Interchange Rightsholder and (2) transmission made available from the EIM Entity's transmission side as ATC. With respect to this latter category of transmission, the EIM Entity OATT contains the substantially similar provisions to that of NV Energy:

The provision of EIM Transfer capacity shall be implemented by 40 minutes prior to the Operating Hour ("T-40") by the NV Energy EIM Entity. The NV Energy EIM Entity shall include an e-Tag, with an OASIS identification reservation number(s) created for EIM Transfers utilizing ATC, and shall also include the Market Operator, all transmission providers, and path operators associated with the OASIS identification reservation number(s) identified on the e-Tag. The amount of ATC will be based upon the lower of the amount of ATC calculated for each EIM Entity at that interface. The ATC shall be available for the EIM, subject to approval of the e-Tag by all required e-Tag approval entities.

These OATT directives are proscriptive. Use of the term "shall" is not a voluntary offer. This transmission may only be reduced within the hour for reliability events, or market issues such as problems with the network model that could create reliability issues. Therefore, this type of transmission cannot be voluntarily removed from the market. In other words, the CAISO cannot in its tariff provide the EIM Entity the ability to nullify the OATT responsibility to make ATC available. The CAISO would have to be able to segregate by path and potentially megawatt quantity transmission made available through ATC and through EIM Interchange Rightsholders.

Furthermore, even with respect to transmission offered by EIM Interchange Rightsholders there are restrictions. First, several of the EIM Entities have made commitments with respect to their market-based rate applications to make certain amounts of transmission available. Second, no EIM Interchange Rightsholder may remove transmission from the market that it had indicated could be made available through their e-tag submitted at T-75.



Simply stated, an EIM Entity is not allowed to remove voluntary transmission during the hour for economic reasons. Limiting exports intra hour has a greater risk to create price separation and increase the congestion rent paid to the Entity that limits transmission exports without this EIM Entity providing any additional capacity to the market. Therefore, it is not accurate to state that this method already exists. It is certainly not correct to be depicted as this proposed limitation on transfers as a generally-available option to all EIM Entities.

NV Energy does not support this proposal and is concerned about the potential adverse consequences. First, this proposal conflicts with the intent of the CAISO Mitigation Measures as designed in the tariff, because it prevents economic displacement from occurring during intervals of mitigation of voluntary supply offers. Limiting transfers during intervals of mitigation will result in instances of price separation between Balancing Authority Areas which distorts competitive outcomes in the Energy Imbalance Market. When price separation occurs, the importing Balancing Authority Areas load will be paying a higher price to serve its energy imbalances. This also impacts third party customers within the Balancing Authority Area, because their imbalances are subject to those increased prices. It is also important to note that the magnitude would be much larger if the Energy Imbalance Market was extended into the Day Ahead Market, thus creating more harm to the market construct.

Secondly, there is a concern that an EIM Entity maybe cut out from receiving enough energy to meet imbalances when imports are frozen from an exporting EIM Entity that has elected this option. The flexible ramping sufficiency requirement is reduced by a diversity benefit due to sharing capacity in such a large footprint. When an EIM Entity elects to utilize this option, this Entity in effect removes the diversity benefit during intervals of mitigation to EIM Entities that are importing energy behind this constraint. Additionally, the flexible ramping product procures ramping capacity intra hour for each market participant. This product has limitations, because the optimization does not observe transmission constraints when procuring this capacity. Therefore, an EIM Entity that is further limited from imports may lose access to the product that it had procured.

Lastly, CAISO has stated that 100% of the congestion rent would be paid to the exporting Entity. Therefore, this new proposal would incentivize EIM Entities to select the option to limit transfers during intervals of mitigation because they would receive congestion revenue when prices separate. Stating this another way, EIM Entities would receive additional revenue by limiting transfers. NV Energy does not agree that any market design should incentivize an entity to select an option to limit transfers resulting in inefficient market outcomes. This is demonstrated below using an example in the CAISO draft final proposal on page 32.

First it is important to calculate a baseline under a scenario in which the transfers are not limited. Assume that economic displacement is allowed and not selected by BAA 1 for enforcement. In this case, Generator C in BAA 1 would produce 100 MW to meet the increased load of 100 MW in BAA 2. There would not be any congestion behind the import constraint in this scenario and both BAAs would have a market LAP of \$80. This is illustrated below in Figure 1.

Load Increases by 100 MW in BAA 2 Compared the Prior Market Run

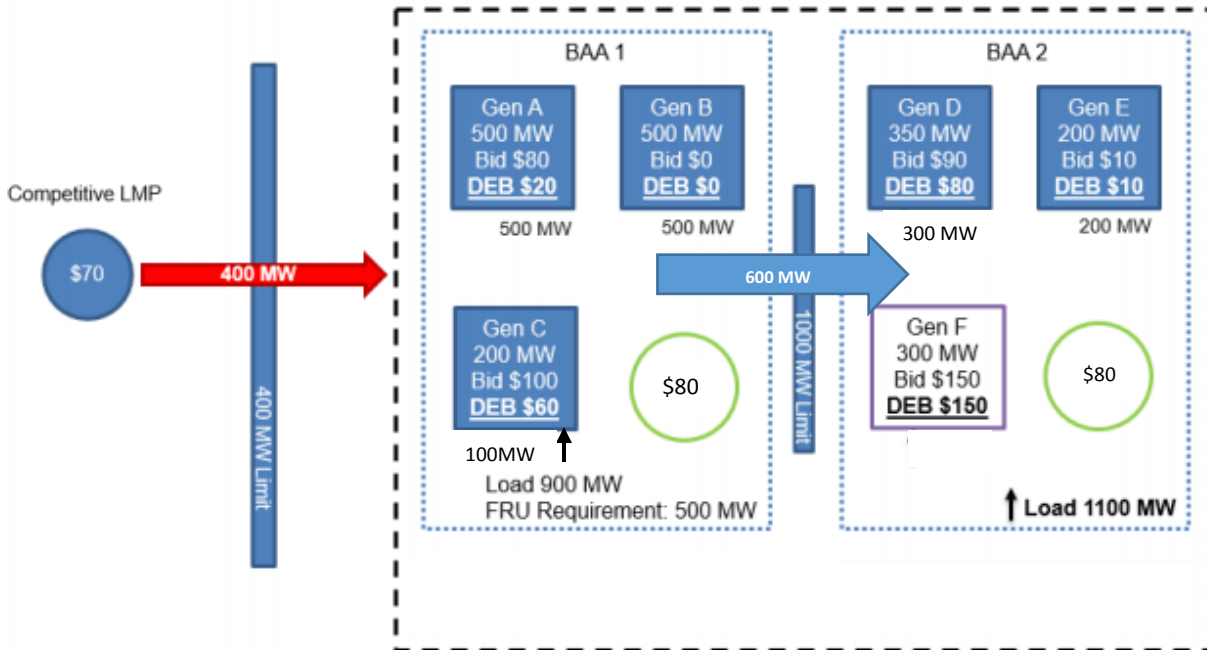


Figure 1: CAISO Economic Displacement Example with no rule enforcement. ¹

BAA 1 would have paid for the transfers at \$80. The calculation is depicted below.

BAA 1 :

Load: 900 MW * \$80 = \$72,000 Charge

Gen: 1100 MW * \$80 = \$88,000 Payment

\$88,000 - \$72,000 = \$16,000 Payment for 200 MW Net Exports

BAA 2:

Load: 1100 MW * \$80 = \$88,000 Charge

Gen: 500 MW * \$80 = \$40,000 Payment

\$40,000 - \$88,000 = \$48,000 Charge for the 600 MW Transfers

Now consider the CAISO example where BAA 1 elects to utilize the economic displacement rule. The rule triggers at a 500 MW export and the transfers are limited to 500 MW. BAA 2 must start Generator F to meet the increase in load and the LAP for BAA 2 increases to \$150. This is shown in Figure 2.

Load Increases by 100 MW in BAA 2 Compared the Prior Market Run

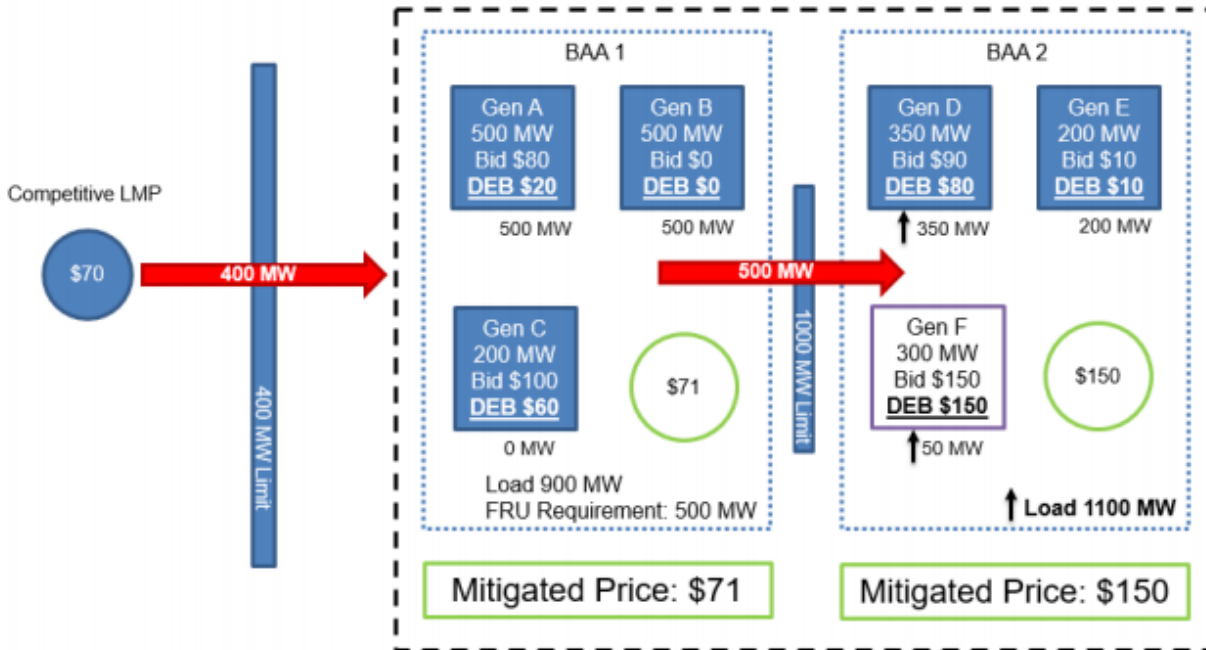


Figure 2: CAISO Economic Displacement Example with rule enforcement. ¹

BAA 1 would be paid all congestion rents as explained on page 32 of the CAISO draft final proposal.¹ Therefore, BAA 1 would be paid \$150 for the 100 MW net transfers. The calculation is depicted below with the impact to BAA 2.

BAA 1 :

Load: 900 MW * \$71 = \$63,900 Charge

Gen: 1000 MW * \$71 = \$71,000 Payment

Congestion Rent: 100 MW * (\$150 - \$71) = \$7,900 Payment to BAA 1

$\$71,000 - \$63,900 + \$7,900 = \mathbf{\$15,000}$ Payment for 100 MW Net Exports

BAA 2:

Load: 1100 MW * \$150 = \$165,000 Charge

Gen: 600 MW * \$150 = \$90,000 Payment

$\$90,000 - \$165,000 = \$75,000$ Charge for the 500 MW Transfers

BAA 2 impact from the enforcement: $\$75,000 - \$48,000 = \mathbf{\$27,000}$



BAA 2 pays an additional \$27,000 because BAA 1 elected to limit the transfers when mitigation occurred. In this example, BAA 2 has an incentive for limiting transfers, because it can still receive almost the same compensation without generating any additional resources and incurring those production costs. Therefore, BAA 2 is incentivized to select this option.

NV Energy does not support any proposal to prevent economic displacement during mitigation because they conflict with the intent of the CAISO mitigation measures, create inefficient market outcomes, and incentivize entities to limit transfers. NV Energy reiterates if the need for mitigation is triggered under appropriate conditions and if the Default Energy Bid appropriately values opportunity costs then supply that has been voluntarily offered to the market should be treated the same. Just because the voluntary offer has the potential to be mitigated does not make it any less voluntary. That potential existed when it was offered. The critical element is the appropriate value of the Default Energy Bid. It must be adequate enough to encourage participation by recognizing valid opportunity costs.

IV. Hydro DEB

CAISO added an additional market design principle for hydro resources stated below:

“The marginal costs used to calculate default energy bids for hydro resources should include opportunity costs for future market sales and for sales at other geographic locations.”¹

All Default Energy Bids should allow a resource to recover all generating costs plus lost opportunity costs. However, this design principle appears inconsistent with the CAISO’s prior determinations.

In the Commitment Cost Enhancements Phase 3 initiative, the CAISO’s proposal calculates a lost opportunity cost as a lost opportunity for intervals within the CAISO market, but does not consider the lost opportunity costs for resources participating in the bilateral market. NV Energy questioned whether or not it is appropriate for a hydro storage resources to receive a lost opportunity cost from the bilateral market. CAISO’s response to this question was that hydro resources may elect to participate in the bilateral market rather than the Energy Imbalance Market. Therefore, this market opportunity cost should be allowed to be reflected in the Energy Imbalance Market.

NV Energy seeks consistency in two ways. First, there should be a consistent approach between the commitment cost initiative and the LMPM initiative as to whether or not the relevant bilateral markets should be considered in the opportunity cost determination. Second, if the bilateral market opportunity is relevant, it should be relevant for all resources not just for hydro facilities. Use-limited gas resources also have environmental limitations and are also available to participate in the bilateral market. There should be no reason to segregate this proposal for only hydro resources with limitations. There should not be a resource specific preference for a higher opportunity cost added to the Default Energy Bid.



¹ CAISO. January 31, 2019. “Local Market Power Mitigation Enhancements Draft Final Proposal.” http://www.caiso.com/Documents/DraftFinalProposal-LocalMarketPowerMitigationEnhancements-UpdatedJan31_2019.pdf

² CAISO. September 24, 2018. “California Independent System Operator Corporation Fifth Replacement FERC Electric Tariff: Section 39.” <http://www.caiso.com/Documents/ConformedTariff-asof-Sep24-2018.pdf>.